

**COASTAL IMPACT ASSISTANCE PROGRAM (CIAP)  
PROJECT NOMINEE FACT SHEET**

**1). Project Title:**

North Lost Lake Marsh Creation/Enhancement Project – Phase 1 & 2

**2). Entity/Individual Nominating Project:**

Terrebonne Parish Consolidated Government

**3). Contact Information:**

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**4). Total State CIAP Funds Requested:**

Total CIAP Funds Requested:

Phase 1	\$2,059,680
Phase 2	\$1,570,800
Total:	\$3,830,480

**5). Infrastructure Funds Proposed:**

There are no infrastructure funds proposed for this project.

**6). Description and Location of Project:**

Phase 1 of the North Lost Lake Marsh Creation/Enhancement Project consists of the construction of approximately 100 acres of new marsh in open water and the enhancement of approximately 96 acres of highly degraded marsh. Phase 1 is located in Region 3, Terrebonne Basin, Terrebonne Parish, Louisiana. Phase 1 is approximately 21,300 feet in length and is situated in Section 1, Township 20 South, Range 13 East and Sections 4, 5, 6, 9 and 10, Township 20 South, Range 14 East.

Phase 2 of the North Lost Lake Marsh Creation/Enhancement Project consists of the construction of approximately 60 acres of new marsh in open water and the enhancement of approximately 53 acres of highly degraded marsh. Phase 2 is also located in Region 3, Terrebonne basin, Terrebonne Parish, Louisiana and has two sites. The first site is approximately 3,700 feet in length and is located in Section 1, Township 20 South, Range 13 East. The second site is approximately 12,800 feet in length and is located in Sections 2, 3 and 10, Township 20 South, Range 14 East.

**7). Project Type: 1 & 4**

The North Lost Lake Marsh Creation/Enhancement Project will be project implemented for the conservation, restoration and protection of coastal areas including wetlands and the implementation of a federally approved marine, coastal or comprehensive conservation management plan. Specifically, Action Plan EM-1 (Hydrologic Restoration) of the Barataria-Terrebonne National Estuary Program (BTNEP).

**8). Project Justification:**

The continued deterioration of broken marshes west of Brady Canal, from Lake Pagie and Lost Lake northward to Carencro Bayou, will expose fragile (organic and floating) Penchant Basin freshwater marshes to catastrophic storm-related damage and/or increase tidal exchange and saltwater intrusion problems during the salty season. The proposed project would create marshes in open water areas occurring within existing marshes to reduce the wave fetch and decrease wave related erosion to the marshes located on the margins of these interior open water areas. The created marshes, along with proposed vegetative plantings, would also reduce storm surges and reduce the potential for storm related marsh breaching.

Additionally, the marsh creation will restore the hydrological regime to it's original condition thereby allowing brown river water to be introduced into an area of intermediate marshes north of Carencro Bayou in order to stimulate organic production and hopefully reduce the very rapid recent loss of marsh in that area.

Phase 1 of the project consists of approximately 100 acres of new marsh creation in open water with 96 acres of marsh nourishment along the north shore of Lost Lake (21,300 feet in length by 300 feet wide). Marsh creation would be conducted along the submerged Bayou Mauvais Bois ridge west of Voss Canal, along the north shore of Lost Lake to the mouth of Bayou Decade. Vegetation will be initially planted on the marshes constructed in open water but it will not be artificially maintained. Vegetative plantings may be replaced if initially unsuccessful and if recommended by the planting experts. Smooth cordgrass (*Spartina Alterniflora*) plantings are anticipated. Planting in marsh enhancement areas will not be required.

Phase 2 of the project consists of in the construction of approximately 60 acres of new marsh in open water with approximately 53 acres of marsh nourishment along Crochet Canal (3,700 feet in length by 300 feet wide) and the west back of Bayou Decade (12,800 feet wide by 300 feet wide). Vegetation will be initially planted on the marshes constructed in open water, but it will not be artificially maintained. Vegetative plantings may be replaced if initially unsuccessful and if recommended by the planting experts. Smooth cordgrass (*Spartina Alterniflora*) plantings are anticipated. Planting in marsh enhancement areas will not be required.

Project goals include reducing shoreline retreat on the north shore of Lost Lake, preventing shoreline breaching thereby restoring the hydrological regime to its original condition. By creating marsh in interior open water areas wave generation fetch and associated wave-wind-induced marsh erosion will also be reduced, and introduction of "brown" water into an intermediate marsh area which has experienced substantial recent losses will be facilitated.



### **Preliminary Project Benefits**

- 1) Phase 1 of the project will create approximately 100 acres and nourish 96 acres of existing degraded marsh. Phase 2 of the project will create approximately 63 acres of new marsh and nourish approximately 50 acres of existing degraded marsh.
- 2) Plantings will hold the marsh platform together and save additional acres.
- 3) The brown water introduction will help save existing marsh thereby maintaining and restoring the Mauvois Bois Ridge, the north Lost Lake shore, and the banks of Bayou Decade.
- 4) Project will provide no benefits to critical or non-critical infrastructure. Project will achieve synergy with the Bayou Decade Hydrologic Restoration Project, the Penchant Basin Plan Project, the North Lake Mechant Landbridge Restoration Project, and the South Lake Decade Project.
- 5) There is only one landowner, Burlington Resources, Inc. and the local borrow source makes the project economically efficient.

### **Preliminary Estimated Construction Costs:**

Phase I	\$2,259,680.00
Phase II	\$1,570,800.00
Combined Total	\$3,830,480.00

### **Coast 2050 Strategy:**

This project was nominated under the CWPPRA PPL16 but was not selected. This project meets the following Coast 2050 strategies:

- Dedicated delivery of sediment for marsh creation
- Restore/prevent adverse tidal exchange points between lake/marsh
- Protect and Maintain Ridge Function

In addition, this project also meets the restoration goals identified by the Strategic Plan for Coastal Restoration adopted by the Terrebonne Parish Coastal Zone Management and Restoration Advisory Committee and supported by the Terrebonne Parish Council as well as the goals and objectives of the specified action plans of the BTNEP.

### **9). Project Cost Share:**

Burlington Resources, LLC, the landowner in the project area, has indicated a willingness to share 4% of the estimated project cost. The Parish share is unknown at this time.

### **Figures**

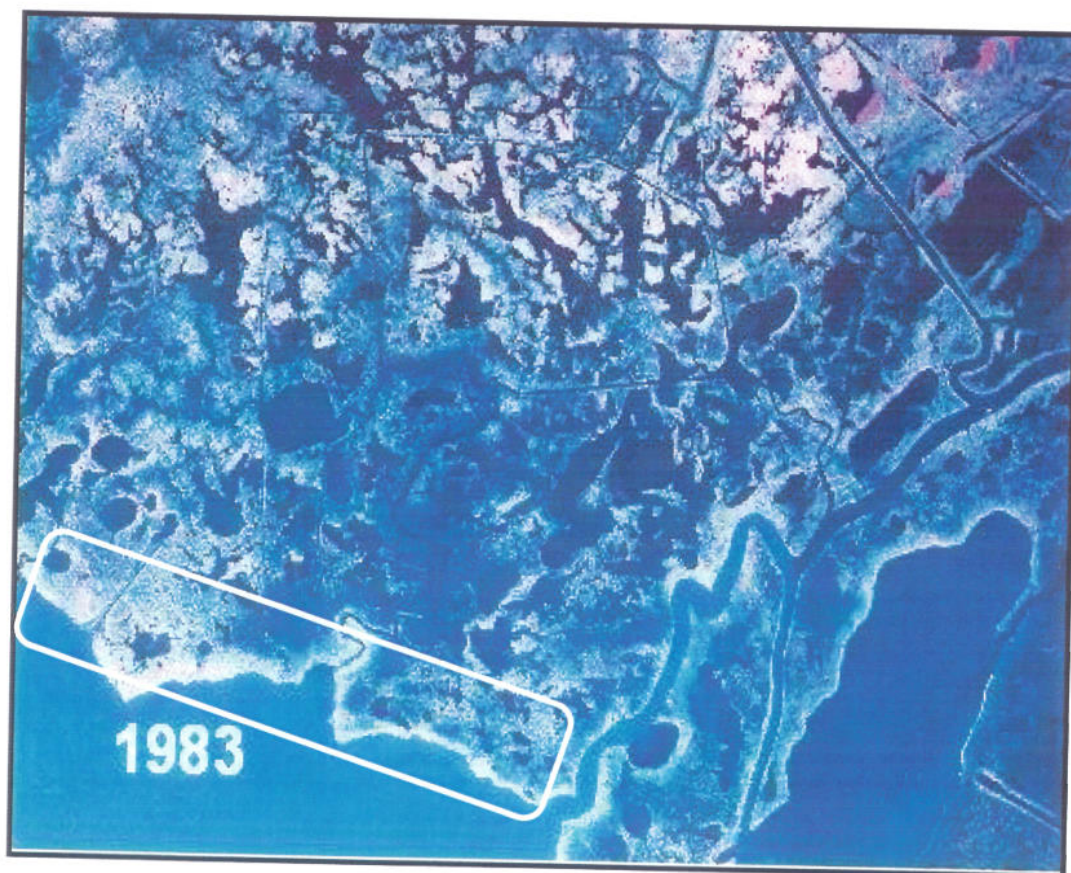
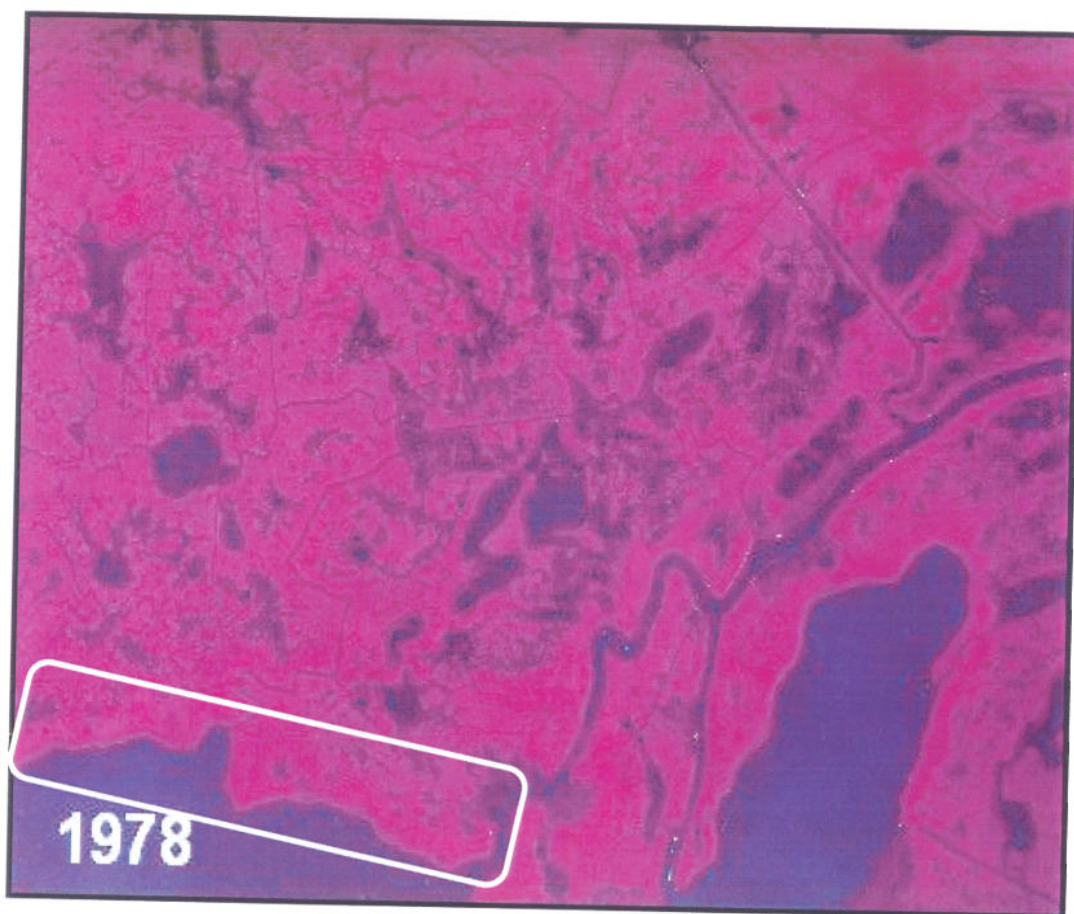
1. Vicinity Map
2. Plan View

## **Attachments**

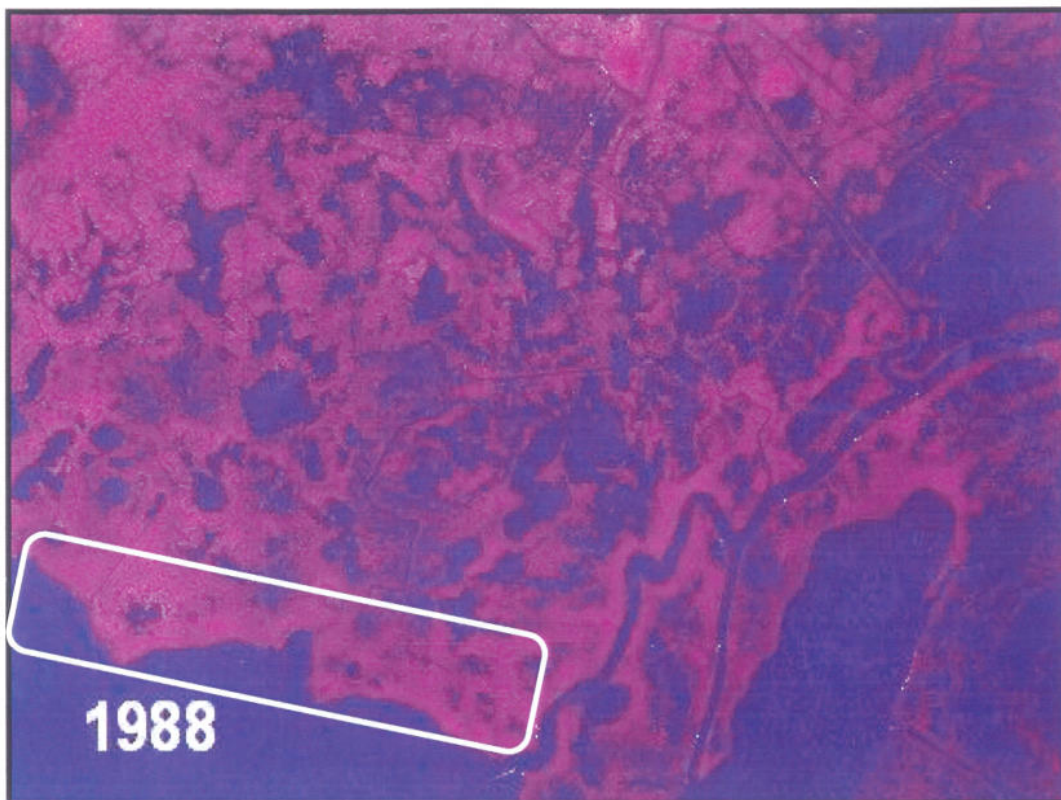
1. Aerial Photography 1978, 1983, 1983, 1998, 2002, 2004
2. Preliminary Wetland Benefit Calculations

### **ATTACHMENT 1**

#### **AERIAL PHOTOGRAPHY**







**ATTACHMENT 2**  
**PRELIMINARY WETLAND BENEFIT CALCULATIONS**

# **North Lost Lake Marsh Creation/Enhancement Project - Phases 1 & 2** **Preliminary Wetland Benefits Calculations**

Project Area = 2,600 acres

## **Phase 1**

Marsh Creation Area = 196 acres (100 acres water, 96 acres marsh)

Lost Lake shore area (21,300 lf x 3 feet x 20 years) = 29.3 acres

Indirect benefit area (2,600 - [29.3 + 196]) = 2,374.7 acres (1,187.3 acres marsh, 1,187.4 acres water)

FWOP loss (mapping unit loss rate = 0.35%/yr)

Marsh creation cells: (96 ac x 0.35%/yr x 20 yrs) = 6.7 acres      TY20 = 96 - 6.7 = 89.3

Indirect benefit area: (1,187.3 ac x 0.35%/yr x 20 yrs) = 83.1 ac      TY20 = 1,187.3 - 83.1 = 1,104.2

Lost Lake shore: (21,300 x 3 ft/yr x 20 yrs) = 29.3 acres      TY20 = 29.3 - 29.3 = 0.0

1,193.5 ac

FWP loss

Assume loss in creations cells reduced by 50% to 0.175%/yr

Assume indirect benefit area loss reduced by 20% to 0.28%/yr

Assume plantings reduce shoreline loss by 50%

Marsh creation cells: (196 x 0.175 x 17 yrs) = 5.8 ac

TY20 = 196 - 5.8 = 190.2

Indirect benefit area: (1,187.3 x 0.28%/yr x 20 yrs) = 66.5 ac

TY20 = 1,187.3 - 66.5 = 1,120.8

Lost Lake shore: (29.3 x 50%) = 4.7 ac

TY20 = 29.3 - 14.7 = 14.6

1,325.6 ac

**Phase 1 - TY20 acres created/protected = 1325.6 - 1193.5 = 132.1 acres**

## **Phases 1 & 2**

Marsh Creation Area = 309 ac (160 ac water, 149 ac marsh)

Lost shore area (21,300 lf + 3,700 lf + 12,800 lf) x 3 feet x 20 years = 52.1 acres

Indirect benefit area (2,600 - [52.1 + 309]) = 2,238.9 acres (1,119.4 acres marsh, 1,119.5 acres water)

FWOP loss (mapping unit loss rate = 0.35%/yr)

Marsh creation cells: (149 ac x 0.35%/yr x 20 yrs) = 10.4 acres      TY20 = 149 - 10.4 = 138.6

Indirect benefit area: (1,119.4 ac x 0.35%/yr x 20 yrs) = 78.4 ac      TY20 = 1,119.4 - 78.4 = 1,041.0

Lost shore: (37,800 x 3 ft/yr x 20 yrs) = 52.1 acres      TY20 = 52.1 - 52.1 = 0.0

1,179.6 ac

FWP loss

Assume loss in creations cells reduced by 50% to 0.175%/yr

Assume indirect benefit area loss reduced by 20% to 0.28%/yr

Assume plantings reduce shoreline loss by 50%

Marsh creation cells: (309 x 0.175 x 17 yrs) = 9.2 ac

TY20 = 309 - 9.2 = 299.8

Indirect benefit area: (1,119.4 x 0.28%/yr x 20 yrs) = 62.7 ac

TY20 = 1,119.4 - 62.7 = 1,056.7

Lost shore: (52.1 x 50%) = 26.1 ac

TY20 = 52.1 - 26.1 = 26.0

1,382.5 ac

**Phases 1 & 2 - TY20 acres created/protected = 1,382.5 - 1,179.6 = 202.9 acres**